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SEQUENCE LISTING

<110> Tomb, Jean-Francois
Bramucci, Michael G.
Cheng, Qiong
Kostichka, Kristy N.

<120> Rhodococcus Cloning and Expression Vectors

<130> CL1709 US NA

<150> 60/254,868

<151> 2000-12-12

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<170> Microsoft Office 97

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<211> 29

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<213> Rhodococcus AN12

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29

<210> 9

<211> 19

<212> DNA

<213> Primer

<400> 9

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<212> DNA

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<400> 10

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<211> 17

<212> DNA

<213> Primer

<400> 11

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17

<210> 12

<211> 1424

<212> DNA

<213> Rhodococcus AN12

<400> 12

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acgggagaaa gcaggggacc ttcgggcctt gcgctatcag atgagcctag gtcggattag 180

ctagttggtg aggtaatggc tcaccaaggc gacgatccgt aactggtctg agaggatgat 240

cagtcacact ggaactgaga cacggtccag actcctacgg gaggcagcag tggggaatat 300

tggacaatgg gcgaaagcct gatccagcca tgccgcgtgt gtgaagaagg tcttcggatt 360

gtaaagcact ttaagttggg aggaagggca gttacctaata acgtgattgt tttgacgtta 420

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 gtaagacgga agtgggatcg actccgacga cacgcacagc gggattcgat ccagcctgtg 420

cgagcaggtt gtaggtgcat tgagattttc cggaacgggt tttgccttga atgagccagt 480
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<210> 17

<211> 606

<212> DNA

<213> Rhodococcus AN12

<400> 17

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tggtcgaagg attcgtccct ggtcaaggct tcttcgacca acccgacta cggcgccaaa 180
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<210> 18

<211> 30

<212> DNA

<213> Primer

<400> 18

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<210> 19

<211> 20

<212> DNA

<213> Primer

1000527-120504

20

<213> Primer

20

<213> Arcanobacterium pyogenes

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Ser Val Trp Ala Cys Pro Val Cys Ser Ala Lys Ile Ala Ala Arg Arg
145 150 155 160

Lys Thr Asp Leu Gln Gln Val Val Asp His Ala Val Lys His Gly Met
165 170 175

Thr Val Ser Met Leu Thr Leu Thr Gln Arg His His Lys Gly Gln Gly
180 185 190

Leu Lys His Leu Trp Asp Ala Leu Ser Thr Ala Trp Asn Arg Val Thr
195 200 205

Ser Gly Arg Arg Trp Ile Glu Phe Lys Glu Gln Phe Gly Leu Val Gly
210 215 220

Tyr Val Arg Ala Asn Glu Ile Thr His Gly Lys His Gly Trp His Val
225 230 235 240

His Ser His Val Leu Ile Ile Ser Glu Lys Asp Pro Leu Thr Ser Thr
245 250 255

Phe Val Tyr Gln Arg Lys Gln Gly Arg Arg Arg Leu Pro Tyr Pro Pro
260 265 270

Glu Ile Tyr Met Ser Ser Asp Phe Ile Ala Glu Arg Trp Glu Ala Gly
275 280 285

Leu Ala Lys His Gly Val Asp Phe Leu Arg Asp Ser Gly Gly Leu Asp
290 295 300

Trp Thr Val Ala Lys Asp Ala Arg Ala Ile Gly Asn Tyr Val Ser Lys
305 310 315 320

Met Gln Thr Ser Thr Asp Ala Ile Ser Ser Glu Val Thr Leu Gly Gly
325 330 335

Phe Lys Lys Ala Arg Asn Gly Asn Arg Thr Pro Phe Gln Ile Leu Ala
340 345 350

Asp Ile Leu Ser Leu Gly Asp Val Asp Asp Leu Lys Leu Trp Lys Glu
355 360 365

Tyr Glu Lys Ala Ser Phe Gly Arg Arg Ala Leu Thr Trp Ser Lys Gly
370 375 380

Leu Arg Asp Trp Ala Asn Leu Gly Val Glu Gln Ser Asp Glu Glu Ile
385 390 395 400

Ala Ser Glu Glu Ile Gly Asp Glu Ala Ile Ala Leu Phe Thr His Asp
405 410 415

Ala Trp Arg Gln Val Arg Arg Phe Gly Ala Ala Glu Leu Leu Asp Val
420 425 430

Thr Glu Ser Gly Gly Arg Ala Ala Ala Tyr Arg Trp Leu Asp Phe Arg
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Glu Ile Asp Trp Ser Leu Pro Pro Lys Ile Glu
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<210> 22

<211> 456

<212> PRT

<213> Streptomyces lividans

<400> 22

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20 25 30

Val Cys Ala Ala Thr Ile Arg His Lys Arg Ala Glu Glu Ile Thr Ala
35 40 45

Ala Val Val Glu Trp Ile Lys Arg Gly Gly Thr Ala Tyr Leu Val Thr
50 55 60

Phe Thr Ala Arg His Gly His Thr Asp Arg Leu Ala Asp Leu Met Asp
65 70 75 80

Ala Leu Gln Gly Thr Arg Lys Thr Pro Asp Ser Pro Arg Arg Pro Gly
85 90 95

Ala Tyr Gln Arg Leu Ile Thr Gly Gly Thr Trp Ala Gly Arg Arg Ala
100 105 110

Lys Asp Gly His Arg Ala Ala Asp Arg Glu Gly Ile Arg Asp Arg Ile
115 120 125

Gly Tyr Val Gly Met Ile Arg Ala Thr Glu Val Thr Val Gly Gln Ile
130 135 140

Thr Arg Lys Asp Gly Thr Gln Tyr Val Arg Pro Ala Glu Asp Gly Ile
145 150 155 160

Arg His Arg Ile Gly Tyr Ile Gly Met Val Arg Ala Ala Glu Val Thr
165 170 175

Arg Ser Lys Lys Asn Gly Tyr His Pro His Leu Asn Leu Leu Val Phe
180 185 190

Leu Gly Gly Glu Leu Ser Gly Thr Pro Ala Lys Gly Asp Val Val Gly
195 200 205

His Phe Glu Pro Ser Glu Thr Asp Leu Gly Asp Trp Glu Asp Trp Leu
210 215 220

Arg Glu Met Trp Ala Gly Ala Leu Lys Arg Ala Asp Pro Lys Phe Glu
225 230 235 240

Pro Ser Thr Asp Cys Asp Thr Pro Gly Cys Lys Cys Lys Gly Lys Gly
245 250 255

His Gly Val Met Val Ser Ile Val Arg Ser Ala Asp Asp Val Ala Leu
260 265 270

Ile Glu Tyr Leu Thr Lys Asn Gln Asp Gly Lys Arg Glu Arg Pro Asp
275 280 285

Ser Val Asp Gln Asp Leu Glu Ala Ala Gly Ala Ala Ala Met Glu Thr
290 295 300

Ala Arg Leu Asp Ser Lys Thr Gly Arg Gly Arg Lys Ser Met Thr Pro
305 310 315 320

Phe Gln Ile Leu Tyr Arg Leu Trp Asp Ile Glu Val Ala Gly Leu Asp
325 330 335

Pro Asp Met Ala Glu Gly Tyr Gly Thr Pro Lys Gln Leu Arg Ala Trp
340 345 350

Trp Ala Gln Tyr Glu Glu Ala Leu Ala Gly Arg Arg Ala Ile Glu Trp
355 360 365

Thr Arg Gly Leu Arg Arg His Val Asp Leu Asp Gly Asp Asp Asp Glu
370 375 380

Glu Thr Asp Leu Gln Tyr Val Tyr Glu Pro Glu Ala Ala Pro Leu Asp
385 390 395 400

Gly Gly Val Val Leu Thr Ser Asp Ala Met Arg Leu Val Val Gly Ala
405 410 415

Asp Ala Glu Leu Asp Leu Asp Asp Val Val Arg Ala Glu Ala Tyr Tyr
420 425 430

Ser Ala Val Asp Val Val Thr Gly Leu Gly Gly Arg Ala Asp His Val
435 440 445

Arg Val Ala Thr Ala Glu Glu Leu Ala Glu Val Gln Glu Val Leu Phe
450 455 460

Ala Arg Thr Gln Glu Arg Ala Glu Glu Ser Arg Arg Gln Arg Arg Ile
465 470 475 480

Ala Glu His Glu Ala Glu Gln Ala Ala Ala His Arg Lys Arg Gln Glu
485 490 495

Leu Ala Arg Cys Leu Gly Leu Leu Val Arg Gln Arg Gly Gly Thr Gln
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Asp Asp Ser Ala Ala Asp Asn Phe Val Ala His Ile His Ala Asn Arg
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<210> 24

<211> 451

<212> PRT

<213> Streptomyces nigirifaciens

<400> 24

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20 25 30

Val Cys Ala Ala Thr Ile Arg His Lys Arg Ala Glu Glu Ile Thr Ala
35 40 45

Ala Val Val Glu Trp Ile Lys Arg Gly Gly Thr Ala Tyr Leu Val Thr
50 55 60

Phe Thr Ala Arg His Gly His Thr Asp Arg Leu Ala Asp Leu Met Asp
65 70 75 80

Ala Leu Gln Gly Thr Arg Lys Thr Ala Asp Ala Pro Arg Arg Pro Gly
85 90 95

Ala Tyr Gln Arg Leu Ile Thr Gly Gly Thr Trp Ala Gly Arg Arg Ala
100 105 110

Lys Asp Gly His Arg Ala Ala Asp Arg Glu Gly Ile Arg Asp Arg Ile
115 120 125

Gly Tyr Val Gly Met Ile Arg Ala Thr Glu Val Thr Val Gly Gln Ile
130 135 140

Asn Gly Trp His Pro His Ile His Ala Ile Val Leu Val Gly Gly Arg
145 150 155 160

Thr Glu Gly Glu Arg Ser Ala Lys Gln Ile Val Gly Thr Phe Glu Pro
165 170 175

Ser Glu Ala Ala Leu Asp Glu Trp Gln Gly Gln Trp Arg Ala Val Trp
180 185 190

Thr Ala Ala Leu Arg Lys Val Asn Pro Gln Phe Thr Pro Asp Asp Arg
195 200 205

His Gly Val Asp Phe Lys Arg Leu Glu Thr Glu Arg Asp Ala Asn Asp
210 215 220

Leu Ala Glu Tyr Ile Ala Lys Thr Gln Asp Gly Lys Ala Pro Ala Leu
225 230 235 240

Glu Leu Ala Arg Ala Asp Leu Lys Thr Ala Asn Gly Gly Asn Val Ala
245 250 255

Pro Phe Glu Leu Leu Gly Arg Ile Gly Asp Leu Thr Gly Gly Met Thr
260 265 270

Glu Asp Asp Ala Ala Gly Val Gly Ser Leu Glu Trp Asn Leu Ala Arg
275 280 285

Trp His Glu Tyr Glu Arg Ala Thr Lys Gly Arg Arg Ala Ile Glu Trp
290 295 300

Thr Arg Tyr Leu Arg Gln Met Leu Gly Leu Asp Gly Gly Asp Thr Glu
305 310 315 320

Ala Asp Asp Leu Asp Leu Leu Leu Ala Ala Asp Ala Asp Gly Gly Glu
325 330 335

1000527-120504

Leu Arg Ala Gly Val Ala Val Thr Glu Asp Gly Trp His Ala Val Thr
 340 345 350

Arg Arg Ala Leu Asp Leu Ala Ala Thr Gln Ala Ala Glu Gly Thr Asp
 355 360 365

Gly Asn Thr Asp Pro Ala Ala Met Gly Glu Arg Val Arg Glu Val Leu
 370 375 380

Ala His Ala Asp Ala Ala Asp Ala Val Val Val Leu Thr Ser Gly Glu
 385 390 395 400

Val Ala Glu Ala Tyr Ala Asp Met Leu Ala Ala Leu Ala Leu Arg Arg
 405 410 415

Glu Glu Ala Ala Ala Arg Arg Arg Arg Glu Gln Asp Asp Asp Gln Asp
 420 425 430

Asp Asp Ala Asp Asp Arg Gln Glu Arg Ala Ala Arg His Ile Ala Arg
 435 440 445

Leu Arg Asn
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<211> 30

<212> DNA

<213> Streptomyces lividans

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30

<210> 26

<211> 30

<212> DNA

<213> Streptomyces phaeochromogenes

<400> 26

ctggcaaaaaa gggacgccta ggtaaaggtt

30

<210> 27

<211> 31

<212> DNA

<213> *Streptomyces nigirifaciens*

<400> 27

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31

<210> 28

<211> 20

<212> DNA

<213> Primer

<400> 28

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20

<210> 29

<211> 20

<212> DNA

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